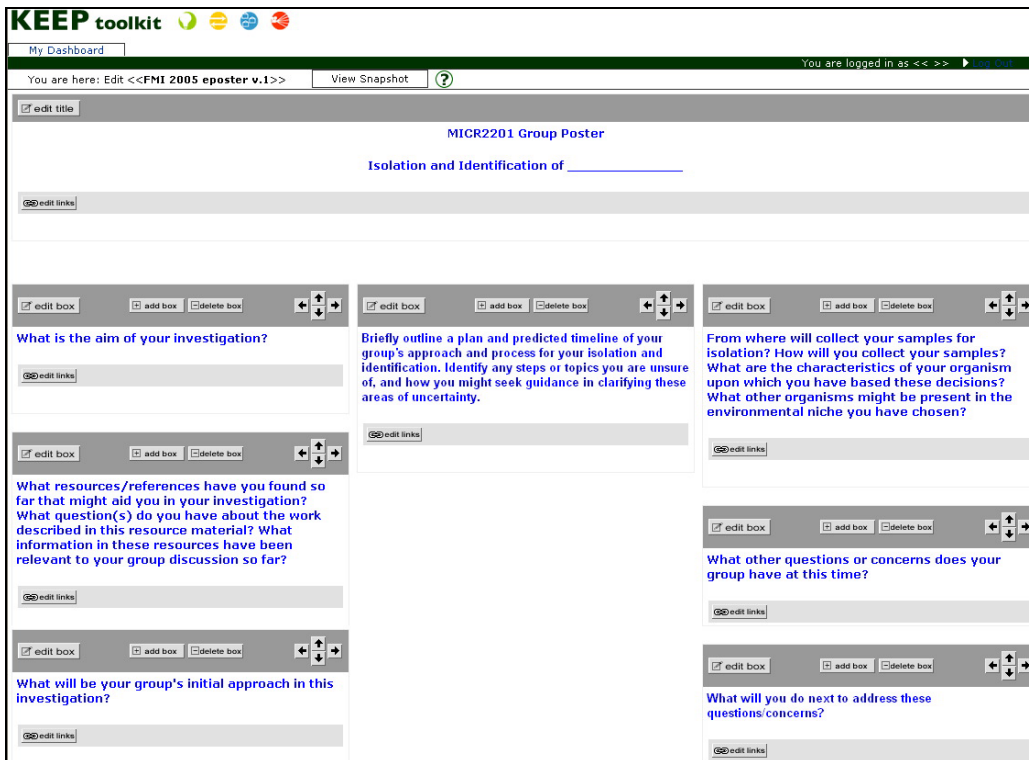


# Mapping student learning throughout the collaborative inquiry process: the progressive e-poster

Kathy Takayama and John Wilson, School of Biotechnology and Biomolecular Sciences, The University of New South Wales, Australia

## Appendix 1



**KEEP toolkit** My Dashboard You are logged in as << >> [View Snapshot](#) ?

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**MICR2201 Group Poster**  
Isolation and Identification of \_\_\_\_\_

**What is the aim of your investigation?**

**Briefly outline a plan and predicted timeline of your group's approach and process for your isolation and identification. Identify any steps or topics you are unsure of, and how you might seek guidance in clarifying these areas of uncertainty.**

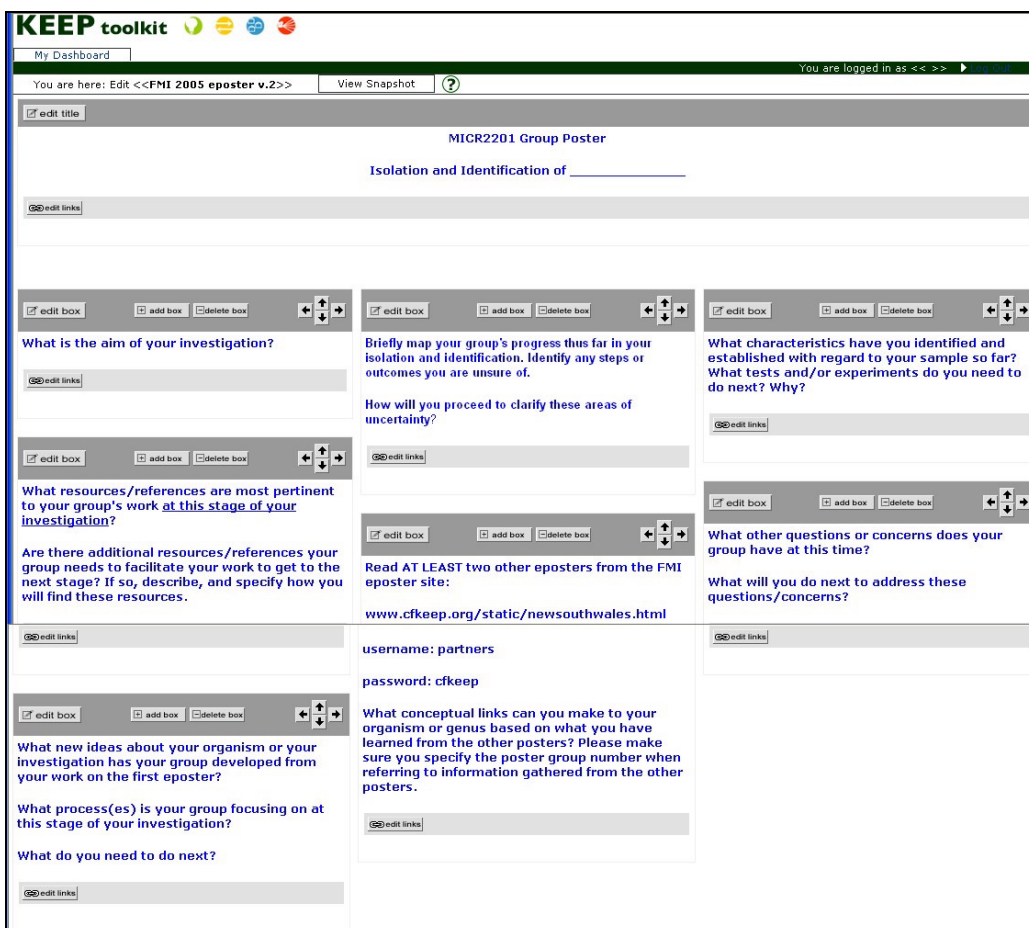
**From where will collect your samples for isolation? How will you collect your samples? What are the characteristics of your organism upon which you have based these decisions? What other organisms might be present in the environmental niche you have chosen?**

**What resources/references have you found so far that might aid you in your investigation? What question(s) do you have about the work described in this resource material? What information in these resources have been relevant to your group discussion so far?**

**What other questions or concerns does your group have at this time?**

**What will be your group's initial approach in this investigation?**

**What will you do next to address these questions/concerns?**



**KEEP toolkit** My Dashboard You are logged in as << >> [View Snapshot](#) ?

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**MICR2201 Group Poster**  
Isolation and Identification of \_\_\_\_\_

**What is the aim of your investigation?**

**Briefly map your group's progress thus far in your isolation and identification. Identify any steps or outcomes you are unsure of.**

**What characteristics have you identified and established with regard to your sample so far? What tests and/or experiments do you need to do next? Why?**

**How will you proceed to clarify these areas of uncertainty?**

**What resources/references are most pertinent to your group's work at this stage of your investigation?**

**Are there additional resources/references your group needs to facilitate your work to get to the next stage? If so, describe, and specify how you will find these resources.**

**Read AT LEAST two other posters from the FMI eposter site:**

[www.cfkeep.org/static/newswales.html](http://www.cfkeep.org/static/newswales.html)

**username: partners**

**password: cfkeep**

**What other questions or concerns does your group have at this time?**

**What will you do next to address these questions/concerns?**

**What new ideas about your organism or your investigation has your group developed from your work on the first eposter?**

**What process(es) is your group focusing on at this stage of your investigation?**

**What do you need to do next?**



## Mapping student learning throughout the collaborative inquiry process: the progressive e-poster

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### Appendix 2

#### MICR2201 2005 Assessment guidelines for e-poster v.1

General comments:

- Students must demonstrate correct usage of terminology.
- Genus and species names must be *italicised*.
- Spelling and grammatical errors will be penalised.
- Posters should reflect collaborative effort. For example, rather than state: 'I have found the following resources...', students should state: 'We have found the following resources...'
- Individual contributions will be taken into account. Those that have not participated toward the research, development of approaches, synthesis of ideas, etc. in the *WebCT* e-poster discussion forum for their group will receive no marks. Tutors will analyse the contribution of group members through *WebCT* logs, tutorial discussion minutes, chatroom logs, and any other relevant and approved sources for evidence of student contributions.

#### 1. What is the aim of your investigation? (3 pts)

Clear definition of research question in no more than 1 - 2 sentences. The aim should include the following:

- Isolation of the genus \_\_\_\_\_
- Source of sample
- Simple statement of approach

#### 2. What resources/references have you found so far that might aid you in your investigation? What question(s) do you have about the work described in this resource material? What information in these resources have been relevant to your group discussion so far? (8 pts)

Thoughtful coverage and interpretation of literature including:

- Utilisation of appropriate, peer-reviewed research material (2 pts)
- Proper formatting of reference material, including images. (2 pts)
- Relevance to the research aim and the current stage of the group work. If certain references have been collected with the intent of application toward the next step or possible future approaches, this should be specified and explained. (2 pts)
- Simply listing references is not sufficient. Groups must demonstrate that they have read the material and how it relates to their work. If they did not understand certain parts of the article, this is perfectly okay- however, they must indicate this and perhaps refer to this fact in the answer to question 6. (2 pts)

#### 3. What will be your group's initial approach in this investigation? (8 pts)

- This section does not need to be exhaustively long- remember, it is an initial approach. We are not looking for a complete experimental protocol.
- The rationale for the initial approach should be stated, and should be based on the characteristics of the organism. (4 pts)
- The initial approach can also include the process the group has been going through to research the organism and learn about various selective and differential media. (4 pts)

#### 4. Briefly outline a plan and predicted timeline of your group's approach and process for your isolation and identification. Identify any steps or topics you are unsure of, and how you might seek guidance in clarifying these areas of uncertainty. (8 pts)

- Logical, step-wise outline.
- If the group is unsure of certain areas, they should be highlighted and the group should state what they are unsure of. The group should propose how they will go about seeking guidance in clarifying these areas of uncertainty.
- The plan is not meant to be complete and perfect at this stage. We are looking for thoughtful reflection, and identification of those areas you need help in.



**5. From where will you collect your samples for isolation? How will you collect your samples? What are the characteristics of your organism upon which you have based these decisions? What other organisms might be present in the environmental niche you have chosen? (8 pts)**

- Sound rationale with regard to source of sample. This should be explained in the context of the characteristics of organism, including physical and nutritional growth requirements (4 pts).
- Proper handling procedures and safety precautions for sample collection (2 pts)
- Discussion of what other genera might be present in this environment, and what characteristics they share with your genera. (2 pts)

**6. What other questions or concerns does your group have at this time? (5 pts)**

- Questions and issues should demonstrate relevance to the proposed approach and what you know about your organism so far. Issues are not limited to scientific questions; i.e., your group may have concerns regarding the collaboration, or perhaps queries about how to present your work, find out further information, track down a source of information... perhaps even technical issues. This question is meant to help you sort out what you might be having problems with, or what you need to figure out.

**7. What will you do next to address these questions/concerns? (5 pts)**

- The group needs to collaboratively agree on what they need to do to address their answer to question 6. For example, if they need to find resources on a specific topic, it is not sufficient to simply state they will do a web literature search or go to the library. They should identify what criteria they would use to determine suitable resources. If the concern has to do with the working dynamics of the group, the group should collaboratively think of approaches to address this issue.

**Other assessment criteria:**

**Organisation and Communication (5 pts):** Has the group demonstrated an organised, strategic approach to their collaborative work as evidenced by WebCT discussions?

Do members of the group communicate clearly and decisively to each other, and with the tutor? Are tutorial minutes presented clearly and comprehensively? Are there spelling or grammatical errors? Are there errors in the use of terminology?

**Individual contribution toward group (50 pts):** This will be weighted based on the quality AND quantity of contributions students have made toward their group work in *WebCT*, the tutorial minutes, tutorial attendance and participation, and other records of participation (chatroom logs; minutes of face-to-face group meetings).

**Summary of assessment:**

Criteria	Points
question 1	3
question 2	8
question 3	8
question 4	8
question 5	8
question 6	5
question 7	5
Organisation and Communication	5
Individual contribution	50
<b>Total</b>	<b>100</b>

N.B. Questions 1 through 7, and the 'Organisation and Communication' criteria are marked as a group. The individual contribution component is marked separately for each student.

≥85	HD	≥50	PS
≥75	DN	<50	F
≥65	CR		



## MICR2201

2005

## Assessment guidelines for e-poster v.2

## General comments:

- Students are encouraged to examine their bug books and revisit their first e-poster to help review their work thus far, and plan their next steps.
- Groups must demonstrate consistency and consultation across all sections. Students should have read, understood, and agreed collectively on each section, even if sections were allocated to different individuals.
- Students must demonstrate correct usage of terminology.
- Genus and species names must be *italicised*.
- Spelling and grammatical errors will be penalised.
- Posters should reflect collaborative effort. For example, rather than state: "I have found the following resources...", students should state: "We have found the following resources..."
- Individual contributions will be taken into account. Those that have not participated toward the research, development of approaches, synthesis of ideas, etc. in the WebCT e-poster discussion forum for their group will receive no marks. Tutors will analyse the contribution of group members through *WebCT* logs, tutorial discussion minutes, chatroom logs, and any other relevant and approved sources for evidence of student contributions.

○ **What is the aim of your investigation? (2 pt)**

Clear definition of research question in no more than 1 - 2 sentences. The aim should include the following:

- Isolation of the genus \_\_\_\_\_
  - Source of sample
  - Simple statement of approach
- **What resources/references are most pertinent to your group's work at this stage of your investigation? Are there additional resources/references your group needs to facilitate your work to get to the next stage? If so, describe, and specify how you will find these resources. (6 pts)**
- Utilisation of appropriate, peer-reviewed research material RELEVANT TO THE RESEARCH AIM AND CURRENT STAGE OF THE PROJECT. References that have been collected with the intent of application toward a future step should be JUSTIFIED IN RELATION TO THE CURRENT STAGE OF THE PROJECT AS WELL AS IN RELATION TO THE MOST RECENT OUTLINE (or flowchart).
  - Proper formatting of reference material, including images.
  - Simply listing references is not sufficient. Groups must demonstrate that they have read the material and how it relates to their work. If they did not understand certain parts of the article, this is perfectly okay- however, they must indicate this and refer to this fact in the answer to question 7.
  - Original resources should not be copied and pasted word-for-word. However, if resources are cited verbatim, they should be in quotation marks and the original reference must be cited.
- **What new ideas about your organism or your investigation has your group developed from your work on the first e-poster? What process(es) is your group focusing on at this stage of your investigation? What do you need to do next? (8 pts)**
- Ideas should be based on sound demonstration of understanding of the morphological, metabolic, and/or physiological characteristics of the organism in relation to your experimental observations so far. If you identified problems/misunderstandings/incorrect application of laboratory procedures from your first e-poster, point these out and explain how you came to this conclusion. If you discovered an interesting or unexpected observation, describe *why* they are interesting or unexpected based on your group's conceptual understanding of the characteristics of your organism. These suggestions are not exhaustive; this section requires thoughtful group reflection and review.
  - Justify your rationale with regard to what process you are focusing on, and what needs to happen next. Use criteria described above.
- **Briefly map your group's progress thus far in your isolation and identification. Identify any steps or outcomes you are unsure of. How will you proceed to clarify these areas of uncertainty? (8 pts)**
- Logical, step-wise outline identifying specific procedures/media used/biochemical tests, etc thus far.
  - If you mention the use of selective/differential media, or a specific biochemical test, you must demonstrate your understanding of the basis of this biochemical test or medium. What is happening with your bug? What about other bugs that might be present in the sample?
  - Outcomes and observations at each stage so far should be *briefly* described.



- Controversial or confusing outcomes should be noted (or if an experiment ‘didn’t work’, what is your explanation in retrospect?). Specific areas of uncertainty should be highlighted and the group should clearly explain what it is that they are unsure of.
- The group should propose how they will clarify areas of uncertainty.
  - **Read AT LEAST two other e-posters from the FMI e-poster site. What conceptual links can you make to your organism or genus based on what you have learned from the other posters? Please make sure you specify the poster group number when referring to information gathered from the other posters. (8 pts)**
- Demonstration of sound understanding of the metabolic, physiological and/or morphological characteristics of your organism with respect to your comments on the other poster (whether you are comparing to a poster with the same or different genus).
- Discussion should be RELEVANT TO YOUR ISOLATION PROJECT. Comparisons about specific characteristics or experimental outcomes should demonstrate your conceptual understanding.
  - **What characteristics have you identified and established with regard to your sample so far? What tests and/or experiments do you need to do next? Why? (4 pts)**
- Demonstration of sound understanding of the metabolic, physiological and/or morphological characteristics of their organism.
- This section should be consistent with questions 3 and 4.
  - **What other questions or concerns does your group have at this time? What will you do next to address these questions/concerns? (5 pts)**
- The guidelines for this section have been provided in the guidelines for e-poster 1. In addition, if there were any issues identified in e-poster 1 that still remain to be resolved, they should be indicated here.

#### Other assessment criteria:

**Consistency of all e-poster sections** (5 pts): Is the e-poster consistent across all sections? Conflicting statements or too much repetition will be penalised. It is imperative that all group members have checked through all sections and collaborative agreement has been reached. It is also imperative that every group member understands the “whole” picture with regard to theoretical and experimental aspects of this research project.

**Organisation and Communication** (4 pts): Has the group demonstrated an organised, strategic approach to their collaborative work as evidenced by *WebCT* discussions?

Do members of the group communicate clearly and decisively to each other, and with the tutor? Are tutorial minutes presented clearly and comprehensively? Are there spelling or grammatical errors? Are there errors in the use of terminology?

**Individual contribution toward group** (50 pts): This will be weighted based on the quality AND quantity of contributions you have made toward your group work in *WebCT*, the tutorial minutes, tutorial attendance and participation, and other records of participation (chatroom logs; minutes of face-to-face meetings with your group).

#### Summary of assessment:

Criteria	Points
question 1	2
question 2	6
question 3	8
question 4	8
question 5	8
question 6	4
question 7	5
Consistency across all questions	5
Organisation and Communication	4
Individual contribution	50
<b>Total</b>	<b>100</b>

≥85	HD	≥50	PS
≥75	DN	<50	F
≥65	CR		

N.B. Questions 1 through 7, and the ‘Consistency across all questions’ and ‘Organisation and Communication’ criteria are marked as a group. The individual contribution component is marked separately for each student.